Seminar on Combinatorial Computing
March 1, Wednesday, 6:30 p.m.
Room 6417, Graduate Center
365 Fifth Avenue, New York

Degenerate crossing numbers

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Abstract

Let G be a graph with n vertices and $e \geq 4n$ edges, drawn in the plane in such a way that if two or more edges (arcs) share an interior point, then they must properly cross one another there. It is shown that the number of crossing points, counted *without multiplicity*, is at least constant times e and that the order of magnitude of this bound cannot be improved. If, in addition, two edges are allowed to cross only at most once, then the number of crossing points must exceed constant times $(e/n)^4$. Joint work with János Pach.

For further information contact János Pach at pach@cims.nyu.edu, or visit our website
http://www.math.nyu.edu/~pach/public_html/combinatorics_seminar.html